THE

MEDICAL AND SURGICAL REPORTER.

No. 1174.] PHILADELPHIA, AUGUST 30, 1879. [Vol. XLI.—No. 9.

Original Department.

Communications.

SOME OBSERVATIONS UPON CHOLERA INFANTUM, ESPECIALLY IN REGARD TO ITS CAUSATION.

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The intestinal disorders of infancy having diarrhœa as a common and prominent feature, which are so frequently encountered during the hot months of the year in all of our large cities, are, in this country, not rarely grouped under the generic title of summer complaint; but our systematic writers on diseases of children distinguish at least three well-defined morbid states under this heading: 1st, Ephemeral, non-inflammatory, or simple diarrhœa; 2d, Enterocolitis of all grades of severity; and 3d, Cholera infantum. It is to the latter, viewed as a distinct morbid state, that this article invites a brief consideration, more especially with reference to its proximate cause or causes.

Before the clinical relations of a disease can be satisfactorily studied, it is essential that its own position shall be accepted, and its claim to be regarded as a distinct disorder generally acknowledged. *A fortiori*, prior to any definite statement of the causation of such an affection, there must be a common agreement as to the application of the title, *i.e.*, it must be used in a specific sense, and restricted to one meaning throughout the discussion.

This statement seems necessary, by way of introduction, since there is an unfortunate tendency to extend the name cholera infantum to a wider range of clinical application than of right belongs to it. Believing that there is a well marked morbid condition to which this term can with propriety be applied, and which without this distinctive title is liable to have some of its important features ignored, it is to be hoped that the name will not only be retained for this affection, but also, that it will as much as possible be restricted to a disease to which American writers have paid especial attention. Indeed, from the fact that such valuable contributions to its pathology and clinical history have been made by authors on this side of the Atlantic (among the pioneers being Dr. Rush, whose clinical essay was published in 1789, followed by the treatises of Miller (1800), Mann (1805), and the writings of Jackson, Horner,* Dewees, Eberle, Stewart, and Condie), it has been inferred by some English writers that cholera infantum is a disorder almost peculiar to America, or, at least, occurring here in much greater frequency than elsewhere. Dr. Condie noticed that it was more common in the Southern and Western States, chiefly in the large cities, but doubted whether the disease existed in its generic form so far east as Boston. It is now generally known that cholera infantum is endemic in all localities that present the necessary conditions for its development, which conditions will be considered further on. In the opinion of those who have had an opportunity of studying similar disorders while in London, a disease is encountered there differing in no essential features from that which we are here called upon to treat, and swelling the lists of mortality during the summer months to as great a degree as it does in this country; the only difference being that there the disease in question is not

* *American Journal of Medical Sciences*, Feb., 1829.

usually separated from similar disorders of infancy, but they are all classed as summer diarrhœa.

Dr. J. Lewis Smith, a very capable and experienced observer, says: "The number of deaths from cholera infantum reported in our bills of mortality is so large, while the number from the same disease embraced in the death statistics of European cities is so small, comparatively, that some have been led to believe that this malady is much more prevalent and fatal in this country than in Europe, whereas were these terms employed in all places to designate precisely the same disease, probably no great difference would be found in the prevalence of cholera infantum on the two sides of the Atlantic." *

That this opinion is correct is rendered evident by the tenor of a report recently presented to the Epidemiological Society, London, by Mr. George Turner, Medical Officer of Health for Portsmouth, a synopsis of which was published in the *British Medical Journal* for May 31st, 1879. In this report Mr. Turner called attention to the great mortality, particularly among infants under one year of age, occurring in large English cities, from *summer diarrhœa*, and insisted upon the close relationship which exists between a sustained high temperature and the production of this disease.

Bristowe speaks of the same affection under the title of *infantile diarrhœa*, and Rilliet and Barthez, who discuss the disorder with more thoroughness than most foreign writers, give it the name of *gastro-intestinal choleriform catarrh.* We cannot help remarking the similarity in the pathology and especially the etiology of the disease, as well as the conclusions of the report by Mr. Turner, just referred to, and those of cholera infantum, as brought prominently forward in the report on Clinical and Meteorological Records in their Relation to Etiology, presented by Prof. N. S. Davis, chairman of a committee upon this subject, to the American Medical Association, which contains original observations of real value, in regard to the etiology of this disorder; the conclusions being as follows:—

"1. That the bowel affections so prevalent, more especially in the middle and northern parts of this country, and so destructive to infantile life in the larger cities, recognized as simple diarrhœa,† cholera infantum, cholera morbus, and dysentery, begin their annual prevalence with the occurrence of the first week of continuous high summer temperature.

"2. That every subsequent occurrence of several days and nights of continuous high temperature causes the new attacks to be increased in number, and the former ones to be aggravated, through the month of July; the same, in a less degree, in August, and still less in September.

"3. That it is not simply the extreme of heat, but its duration, that determines the number and severity of the attacks, more especially of diarrhœa and cholera infantum.

"4. That the bowel affections under consideration prevail most in those cities and countries where there is a wide range of temperature between the winter and the summer; in other words, where these seasons present the greatest contrast." *

Dr. Davis further says † that "the facts tabulated in this and our previous report are sufficient to demonstrate clearly that the bowel affections of children which have been so long attributed, by the people and by many members of the profession, to *teething*, really originate from causes or circumstances of which a continuous or somewhat protracted high temperature constitutes an essential part."

There can be no doubt, at this late day, that there is a disorder, marked by peculiar features, which is especially liable to occur in very young children in hot weather, and which is just as distinct from ordinary infantile diarrhœa as cholera morbus in the adult differs, for example, from ordinary looseness of the bowels accompanying indigestion. Indeed, Meigs and Pepper‡ contend that cholera infantum is "the analogue of cholera morbus, or even of epidemic cholera in the adult," and with much force insist upon its distinction from ordinary simple and inflammatory diarrhœas. In enumerating its specific characters they do so very much in the words used by Dr. Aitken in describing epidemic cholera. Without multiplying references, we may again quote Bristowe, who, in speaking of *infantile diarrhœa* and *summer* (*English*) *cholera* of adults, says:§ "Although receiving different names, it would be difficult to draw any clear line of distinction between the morbid condi-

* A Treatise on the Diseases of Infancy and Childhood, by J. Lewis Smith, M.D.; third edition, Philadelphia, 1878; p. 638.

† *i. e.* so returned by physicians in the mortality reports (F.W.).

* Transactions of the American Medical Association, Vol. xxviii, p. 159. † *Loc. cit.*

‡ "Diseases of Children;" sixth edition, Philadelphia, 1877; page 416.

§ A Treatise on the Theory and Practice of Medicine, by John Syer Bristowe, M.D., London. Edited, with notes, by James Hutchinson, M.D. Philadelphia, 1876; page 703.

tions here associated." Dr. Smith* also notices this close resemblance of the symptoms to those of Asiatic cholera, "although quite distinct in its nature, and occurring independently of the epidemics of that disease." With sporadic cholera, however, the relationship is very close, and for all practical purposes cholera infantum may be considered as possessing all the clinical phenomena of cholera morbus.

The teaching of Meigs and Pepper may then be accepted without further discussion, that there is a true choleraic disease in infants as in adults, and that, pathologically, it is distinct from all the ordinary cases of diarrhœa or entero-colitis. What these specific characters are by which it may be recognized scarcely comes within the scope proposed for this present paper; for these the reader is referred to the exhaustive article on cholera infantum included in Meigs and Pepper's excellent treatise, or that of J. Lewis Smith, which has recently appeared in a fourth edition.

We are the more particular to establish its claims to be regarded as distinct from ordinary diarrhœa, from the fact that, in the words of a recent writer,† "in the discussion of this subject many of our physicians, and not a few of our writers, leave us more or less confused as to the nature and peculiar characteristics of the disease, there seeming to be a kind of tacit willingness to include all the intestinal troubles of the hot months under the head of cholera infantum."

Dunglison's Dictionary‡ may be held as in a measure responsible for this error, since, in its definition of cholera infantum, we find it regarded as synonymous with "summer complaint." We observe a further evidence of this in scanning the mortality lists of our large eastern cities. Taking Philadelphia, for instance, we find in the month of July, 1879, in addition to the (400) deaths from cholera infantum, that deaths of young children were reported from diarrhœa, marasmus, inanition, debility, teething, inflammation of the bowels, dysentery and cholera morbus. It is not improbable that some cases of true cholera infantum may be returned as marasmus, dysentery or diarrhœa, while there can be no doubt that many more of such cases are carelessly set down as cholera infantum. Indeed, an eminent authority already referred to says,§ "many physicians among us are still in the habit of designating the various intestinal disorders of children so frequent during the summer heats under the common title of cholera infantum. We believe, on the other hand, that a large majority of the deaths registered in our mortality returns under this name are the result, not of true choleraic disease, but of simple diarrhœa, or entero-colitis."

Having insisted upon the position of cholera infantum as a distinct disease, it may be provisionally defined as a choleraic disorder, which occurs in infants during periods of high temperature, and which is closely related to cholera morbus in the adult, if not identical with it.

In regard to its etiology, Eberle,* more than thirty years ago, pointed out its dependence upon an elevated temperature, and in discussing its causes, sagely observed that "There are, therefore, three causes whose concomitant influence is extensively concerned in the production of this variety of cholera, namely, high atmospheric heat, the contaminated air of large cities, and the irritation produced by dentition." To this statement it would appear that little has been, or indeed could be, added, although there is among recent writers a tendency to esteem less highly the last factor, and to disregard the erethism of the nervous system incident upon teething as a predisposing cause of cholera, although it will perhaps be acknowledged that it may lessen the power of resistance to the disease after its onset. There is, however, a general agreement to lay a greater stress upon, if not to attach exclusive importance to, meteorological phenomena in the causation of cholera infantum, and to pay less attention to the usual concomitants, such as teething, indigestion or diarrhœa, which may be either predisposing or accidental, according to circumstances. It is acknowledged that the observations of the relations existing between a sustained summer temperature and the appearance of the disease in certain large cities, both in America and Europe, are well founded; and that the conclusions of Mr. Turner, Profs. Davis and Miller, and systematic writers generally, are correct to this extent. The object of this paper will have been accomplished, if the writer succeeds in indicating, or rather suggesting, an answer to the query, "How does a continuous moderately elevated summer temperature, in certain localities, lead to the production of cholera infantum?

* Loc. cit.

† Prof. Miller. "A Contribution to the Etiology, Pathology and Therapeutics of Cholera Infantum," in the *American Journal of Obstetrics*, New York, April, 1879.

‡ Second edition, Philadelphia, 1868, p. 210.

§ Meigs and Pepper, loc. cit.

* A Treatise on the Practice of Medicine, by John Eberle, M.D., with notes and additions by Geo. McClellan, M.D.; 7th ed.; Phila., 1849.

In stating the above question the word "moderately" is advisedly used. In the same article in which Prof. Miller advances the view that a continued high temperature is "the *only* and *sufficient* cause of cholera infantum" (italics in the original), he defines the condition under which it appears as "a mean thermometer above 75°, with a small daily range." With the greatest deference to Prof. Miller's more extended experience, we would venture to differ *in toto* with him and other writers who adhere to the view that this degree of heat, *per se*, is sufficient to cause the disease; and we would here express the opinion that there are important physiological and pathological facts that we shall be obliged to overlook if we accept this doctrine. We oppose it the more firmly because this teaching, which is now becoming fashionable, leads to erroneous therapeutic deductions; we are permitted to infer that the case resembles one of heat-stroke or thermic fever (if, indeed, it is not to be considered as identical with it), and, therefore, is to be treated by the extraction of bodily heat (think of treating an adult with cholera morbus in this way!); it is also leading us in the wrong direction for prophylaxis, for it teaches that if the baby can be kept cool it is safe. The circular issued by the New York Board of Health says: "Wash your well children in *cold water* twice a day, and *oftener* in the hot season;" and Prof. Miller says: "If this one prescription were carried out, cholera infantum cases could be well nigh eliminated from the mortality reports." He looks forward to the time when the poor will be freely supplied with ice in summer, as an act of humanity, just as coal is given to them in winter. We think it will appear later that we should search deeper for the cause of this endemic disorder, for although heat is undoubtedly a link in the chain of causation, it is a remote one, and not the proximate one, as believed by many. We would not wish to be understood as in any manner condemning the use of graduated cool baths for children in cases of hyperpyrexia, nor of discouraging the adoption of all the means in our power of increasing the comfort, or rather of decreasing the discomfort, of our little patients, but it appears that some of our authors must have a different affection in their minds from what is properly designated cholera infantum, when they devote their attention chiefly to reducing the bodily temperature. Prof. Miller certainly must have meant something analogous to heat-stroke, or sunstroke, when, after recommending allowing the child small pieces of ice, and ice water, often repeated, he says, "As to the medicines to be used, as soon as cool surroundings are secured medicines will often be unnecessary, and so long as the temperature is not lowered they will generally be insufficient."* We would respectfully submit that whatever disease may be referred to here, it certainly is not cholera infantum, in which a fatal result may take place from collapse in five or six hours, and many die in less than forty-eight hours, with vomiting, thirst, rapid sinking, scanty or suppressed urine, watery stools, and wasting, in other words, with symptoms that cannot be distinguished from those of Asiatic cholera, the differential diagnosis being impossible during epidemics of the latter disease. (J. Lewis Smith.) Instances of *coup de soleil*, although rare, undoubtedly do occur among young children; but this condition is essentially and entirely distinct from cholera infantum,† although when fatal these cases are, without doubt, usually reported as instances of the latter affection. Sunstroke is caused by prolonged exposure to intense heat, generally to the direct rays of the sun, under circumstances that are adverse to free respiration and free perspiration; cholera infantum occurs under what, in comparison, may be regarded as not an immoderate degree of summer heat, and often where all ordinary precautions have been taken against its effects.

In brief, heat alone cannot be the sole cause of cholera infantum, for the following reasons:—

1. Physiology teaches that the various active phenomena occurring in the living organism are accompanied by the production of a large amount of sensible heat, which constantly escapes by radiation from the body, and which keeps the surface at a temperature corresponding with $98\frac{4}{10}$° of Fahrenheit's scale. When the surrounding atmosphere approaches this degree of heat, radiation is checked, and discomfort is experienced, and bodily heat tends to increase; but Nature provides for this condition by bathing the surface in perspiration, which, in evaporating, cools the surface by appropriating large quantities of heat; at the same time there is a tendency on the part of the individual to avoid active exertion, and thus diminish heat production, so that workmen in foundries, glass-houses, and gas works may be habitually exposed to high temperatures, and where the air is dry they

* In another place in the same essay he states, "There are some striking resemblances between this disease and sunstroke, so much so as to suggest a pathological relationship."

† The differential diagnosis is given by Dr. Smith in the volume referred to, page 642.

readily support a temperature of 250° to 280°, and even, for a short time, of 350°, without much inconvenience.*

Now, there are many reasons why young children should bear a moderately high external temperature even better than adults, because their heat generating power is less. "It is to be carefully remembered that the development of man is slower than that of any other animal, and that his calorifying power is closely connected with his general bodily vigor; and though the infant becomes more independent of it as development advances, it is many years before the standard can be maintained without assistance throughout the ordinary vicissitudes of external temperature."† Milne Edwards and Villermé, in their researches into the causes of infant mortality in the foundling hospitals in France, determined that the excess was due to *cold* rather than to *heat*, and that the mortality is very much greater during the first three months of the year than during the summer, and that it varies in different localities, in proportion with the severity of the winter.

When we consider that a mean temperature of 75°, which is considered by some writers as the sole and efficient cause of cholera infantum, is by no means infrequently found to exist in children's nurseries during the winter, the extravagance of the statement becomes very evident. Indeed, the bodily temperature of the mother is considerably higher, but no one will contend that it is uncongenial for the infant or that it causes disease.

2. The geographical distribution of cholera infantum is opposed to the view of its causation solely by heat. Observers agree that it is most prevalent in a temperate climate, where the temperature rarely reaches 100° (in the shade). In many parts of the tropical zone, however, the thermometer rises every day, throughout a large part of the year, to 110°, and in British India and in Africa it is seen as high as 120° to 130°. In Siam the parturient woman is put close to a broiling fire, and kept there for thirty days after delivery.‡ The infant, of course, remains in the same room, and is nursed under this unusually high temperature. According to the heat theory all these children should die of cholera infantum, which is not the case. Another reason why heat is not the sole cause, is given by Eberle, and is abundantly confirmed by others—that the disease is much more prevalent in our large cities than in the country, where the temperature is equally high, and may be even higher.

3. Pathological considerations show that the choleraic disease of infants corresponds closely with cholera morbus in the adult, which we are not willing to believe is solely produced by heat, although usually occurring in hot weather. Finally, the external application of heat in animals * always produces symptoms of thermic fever or heat-stroke, which do not correspond in important particulars with those of cholera, either in the infant or the adult.

If the preceding propositions, will be accepted as demonstrated—(1) that cholera infantum is a disease pathologically distinct from ordinary diarrhœa; and (2) that although it occurs in our Middle and Eastern States during the periods of greatest temperature, it is not directly and solely due to summer heat—we may now proceed to consider what other meteorological conditions usually coexist with elevated temperature, that could influence the development of the disease. That this is the proper direction in which to search for the exciting cause of cholera infantum is evident from the facts that the disorder is not contagious, although endemic, and it is, beyond doubt, dependent upon meteorological states that are constantly associated with the prolonged heat of midsummer. Inasmuch as cholera infantum undeniably attacks children that do not drink impure water, and whose food is prepared with the greatest care, and who have due attention paid to bathing and proper clothing, we must look to the atmospheric surroundings for an explanation. It is acknowledged freely that a neglect of these hygienic precautions will produce sickness, and may possibly predispose the child to an attack of cholera infantum, but we contend that they cannot initiate the disease in the absence of the specific cause, as they exist in many places where cholera infantum is unknown.

The changes which occur in the atmosphere, especially of large cities, accompanying a prolonged high temperature, may be stated to be—

1st. An increase in humidity.

2d. Contamination by noxious exhalations of organic origin, crowd poison, etc.

3d. Changes of the air determined by conditions of the soil and movements of the groundwater.

* Chabert, the 'Fire-king, is said to have entered an oven heated to 600° Fahr.

† Carpenter's Physiology, American edition; Philadelphia, 1876; p. 547.

‡ Notes on Obstetric Practice in Siam, by Samuel R. House, M.D.; quoted from *Archives of Medicine*, by *Monthly Review of Medicine and Surgery*; Philadelphia, Aug., 1879.

* See Prof. H. C. Wood's Treatise on Thermic Fever; Philadelphia, 1876.

There is no doubt that all of these conditions may act as factors of disease, and systematic writers generally name impure air or poor ventilation as an active predisposing cause to cholera infantum.

In regard to the increase in humidity, this is recognized by sanitarians as an impurity, as it favors the suspension of organic particles, and the diffusion of carbonic acid. The dew-point rises in an increasing ratio with the temperature, and the air constantly contains from 50 to 75 per cent. of the quantity necessary for saturation. As the watery vapor is manifestly many times greater in summer than in winter, in favorable localities, it is a point in the propagation of summer complaints that should not be overlooked. This will be found to be particularly important, if the conclusions of Dr. T. J. Turner, U.S.N., shall be confirmed, in regard to moisture as an impurity in air. His positive statement is that when such vapor is in excess it has an absolutely fatal influence at a temperature of 90 to 100° Fahr.* If the truth of this shall be established by experimentation, it may be regarded hereafter as a leading, or, at least, an important predisposing, factor in the causation of cholera infantum.

Concerning the ordinary noxious exhalations from decaying organic refuse, and the contamination of the air by over-crowding, these evils are always present in our large cities. The thousands of cesspools, the miles of exposed gutters and untrapped sewers, the vegetable refuse that decays in the streets so readily in hot weather, are all active agents in the production of disease, and more especially in infants, since they are much more sensitive to bad hygienic surroundings than are adults. But since these causes are operative to an equal, and in many cases to a greater, degree when cholera infantum does not prevail, but the presence of the zymotic diseases, including diphtheria, testify to the insanitary conditions instead, it is evident that, while they deserve the prominence given to them in our classical treatises, as important adjuncts, they cannot be considered as being preëminently the cause of the disease under consideration.

* "Air and Moisture on Shipboard." Published by the Medical and Surgical Bureau of the Navy Department. This work I had not had the opportunity of examining, but only knew through an editorial on "Moisture as an Impurity in Air," in the New York *Medical Record*, for May 3d, 1879, in which Dr. Turner's conclusions are given; since writing this paper, however, I have, through the kindness of Prof. J. Aitken Meigs, had Dr. Turner's essay placed in my possession. It contains a number of practical suggestions for naval hygiene, and represents a large amount of original investigations.

Finally, we come to the consideration of the influence of changes in the atmosphere determined by conditions of the soil and movements of the ground-water. We confess that our convictions are in harmony with the view that it is in this direction that we are to look for the true cause of cholera infantum; and if it shall hereafter appear that there are good reasons for believing that the disorder is due to a specific cause, that its outbreak is associated with the development of microscopic or ultra-microscopic organisms, such as Pettenkofer* believes accompany cholera, both epidemic and sporadic, we shall consider it only as the final one of the series of clinical characters already referred to, unmistakably separating this disorder from ordinary ephemeral diarrhœa, and connecting it with cholera in the adult.

Largely owing to the careful researches of Pettenkofer, which have been repeated by other investigators, much greater attention, of late years, has been paid to the moisture in the soil, and the relations which it bears to certain epidemic diseases. The effluvia from the earth have been definitely connected with outbreaks of paroxysmal fevers, enteric (typhoid) fever, yellow fever, bilious remittent fever, cholera and dysentery.† The ground-water is defined by Pettenkofer as that condition in which all the interstices of the ground are filled with water, so that, except in so far as its particles are separated by solid portions of soil, there is a continuous sheet of water. Above this level the ground is moist, and contains air as well as water. This ground or subsoil water is at very different depths in different soils, from a few feet to several hundred, and is in constant movement, flowing toward the nearest river or the sea. In Munich, Pettenkofer reckons its rate at about 15 feet daily (Parkes). Its level is also constantly changing, from physical causes. When the ground-water is near the surface the soil is moist and cold, and favors the development of phthisis and paroxysmal fevers (it has been repeatedly observed that measures taken to dry the soil by deep drainage lessen the

* Neun ätiologische und prophylaktische Sätze, aus dem amtlichen Berichten über die Choleraepidemien in Ostindien und in den Vereinigten Staaten von Nordamerika, von Dr. Max von Pettenkofer (Separatabdrück aus der *Deutschen vierteljahr. für öffentliche Gesundheitspflege*, Band IX, Heft 2, Braünschweig, 1877. Also *Vierteljahrschrift für öffent. Gesundheitspflege*, Band II, page 181. Also his "Analysis of the Reasons of the Immunity of Lyons from Cholera," *Zeitsch. für Biologie*, Band IV, page 400; and numerous other essays.

† Parke's Manual of Hygiene, fifth edition; Philadelphia, 1878; p. 329.

prevalence of these diseases); catarrh and rheumatism also are found in such localities. To a greater degree, however, dampness of the soil exerts an evil effect, by aiding the development and evolution of organic emanations. These miasms "are at present known only by their effects; they may be mere chemical agencies, but more probably they are low forms of life, which grow and propagate in these conditions. At any rate, moisture appears to be an essential element in their production" (Parkes). There is a constant interchange, on the principle of diffusion of gases, going on between the ground and atmospheric air, which is favored by the rise and fall of the ground-water. This is a fruitful source of disease. Pettenkofer's observations led Buhl* to the discovery that in Munich there is a very close relation between the height of the ground water and cases of typhoid fever: the outbreaks of typhoid fever occurred when the ground-water was lowest, and especially when, after having risen to an unusual height, it had rapidly fallen. This was subsequently confirmed by Pettenkofer, and by many others, the truth finding its most frequent application in large cities, where the ground-water becomes converted into an immense sewer, from the great number of cesspools. In addition to the conditions named, *i.e.* a rapid sinking of the ground-water after an unusual rise, and impurity of the soil from animal refuse, there is needed, according to Pettenkofer,† heat of soil and the presence of a specific germ.

A view almost identical with the preceding is held by the same distinguished authority in regard to cholera, which he considers due to a germ whose development is in like manner dependent upon the movements of the ground-water. He has published a number of essays in defense of this opinion, which is generally accepted in Germany, and the observations of Drs. Lewis and Cunningham in India demonstrated that the cholera in Calcutta, in 1873–74, occurred in accordance with Pettenkofer's views.

The field that has been opened by these researches in the "under world" is full of interest, and invites further exploration. Many of the apparent vagaries of zymotic disease may now find a simple explanation, and the study of future epidemics will throw still more light upon their origin and methods of propagation. It is especially upon the relations of cholera infantum to the movements of the ground-water and telluric exhalations, that the attention of American investigators of this subject should be directed. Cholera infantum occurs most frequently in cities, because its victims are there crowded in greatest number. It is not, however, confined to the cities, but is encountered in all its severity in suburban and country residences. An intelligent, experienced physician, practicing in one of the healthiest suburban localities near Philadelphia, told the writer last year that he then dreaded going to a case of cholera infantum, as he had seen quite a number, and they nearly all died, in spite of the greatest attention. We have since recalled the fact that at that period there had been a marked fall in the ground-water, and nearly all the wells in the neighborhood were dry. Coincident with this was an unusually hot term, which will long be remembered as the "hot wave" of 1878.

In the way of therapeutics and prophylaxis, the course is obvious. As in a cholera epidemic no apparently trifling diarrhœa should escape treatment, so during the existence of cholera infantum, no diarrhœa should be neglected; a child in the city with obstinate, watery diarrhœa, is to be regarded as threatened with cholera. The prophylaxis and treatment of cholera infantum might (having in view its epidemic character) be summed up in the simple recommendation to send the little sufferer, on the first symptoms of the disease, to the seashore, where it will often get well on mint water.*

When collapse is threatening, the warm mustard bath, with cool applications to the head, and a little burnt brandy internally, will revive the patient long enough to get him away from the infected locality.

In the hope of stimulating discussion, we would submit the following propositions, the last three of which it will be seen are far from being established at the present time:—

1. Cholera infantum is a disease of infants, *sui generis*, differing materially from ordinary summer diarrhœa, in its etiology, clinical history, and prognosis.

2. In all essential features, cholera infantum is the analogue of cholera morbus in the adult.

3. While its outbreaks follow the first continuous high temperature of summer, they are

* *Zeitschrift für Biologie*, Band I, p. 1. Quoted by Parkes, loc. cit.

† *Vierteljahrschrift für Öffentliche Gesundheitspflege*; band II, p. 181.

* See Report by Wm. H. Bennett, M.D., on "The Children's Seashore House at Atlantic City, and its Clinical Teachings in Regard to the Value of the Seashore as a Resort for Sick Children." Philadelphia Medical and Surgical Reporter, volume xxxviii, page 124.

not due directly to heat, nor is heat the sole and efficient cause.

4. Epidemics of cholera infantum, where circumstances are favorable for their development, follow a marked decline in the ground-water after an unusual rise (?).

5. Cholera infantum belongs to the zymotic group, and is due to a specific germ (similar to that of epidemic cholera)?

6. The specific agent producing cholera infantum is indigenous to certain localities, existing in the ground-air (?).

FAMILY TAINTS.

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The fact has often enough come to the observation of physicians, that some families of children have a low or weak vitality. Such families frequently, and I think as a rule, contain several members, even more than the average, so that we might term them large families; but they die, some with one disease some with another. Prominent among such fatal diseases we may name tubercular meningitis, scarlet fever, diphtheria, cholera infantum, etc., although almost any disease is likely to overpower the tender body and prove fatal. Thus we often see several little graves in a row, one after another having fallen a prey to some affection that others would have readily overcome.

What the peculiar constitutional character of such a family is, may in some cases be difficult to understand. We find, as a rule, the children are fair, intellectual, promising, even sometimes stout and rosy-cheeked, light skin and hair, yet possessing a certain *taint* which readily proves itself in unmistakable evidences of low grade of vitality, and for which, I believe, we have no name that will serve for all cases.

It may be remarked that the objective signs just named are not always present (Miller, Roberts). Some have dark skin and dull intellect.

I have observed that the parents may, and often do, appear to be quite healthy, with no indications, even to a physician's eye, that they must foster such a progeny. And what is more strange, they may not be in the line of any special hereditary disease, yet nearly every child seems to be doomed, sooner or later.

I have further observed that if one of the children was saved it was much more frequently the first—this to grow up perfect, or more or less feeble—the succeeding ones falling, one after another. Sometimes one, two or three survive, fortunately, but generally many more die than live; only a small part living to grow up.

It is certainly disheartening to the physician to observe such sad waste; families decimated, children dying in spite of all the known means that are at his command; and, indeed, he is often blamed for his ill success, when he has exercised a skill and judgment than which no better could have been found. Such sad mysteries, if the expression be allowed, sometimes confront us, and will continue to do so until we learn more of the great laws of reproduction.

However, some cases are clearly enough traced to their true cause; one or both parents exhibiting distinct evidences of loitering disease; or, though healthy themselves, yet falling directly in the line of hereditary disease. Or again, there may be a peculiar kind of exhaustion, which will be noticed hereafter. When such causes can be found our embarrassment is, of course, at an end. We say to the parents, "Your children are *tender;* they cannot endure as much as other children; they are like a vine growing in the cellar, easily snapped, and if you bear others, they also will be liable to fall as easily." It is, indeed, well that such a satisfactory explanation greatly mitigates their distress of mind.

But such families are occasionally found where no evident cause can be assigned. The parents are able to boast of uninterrupted health, and of entire freedom from hereditary disease; their ancestors have lived to a ripe old age, perhaps, and where the fault or failure exists cannot be told with any degree of satisfaction.

Among the family faults, or "taints," as they have been named, rather carelessly, perhaps, are scrofula, rheumatism, syphilis, general anæmia, and what we now term sexual exhaustion. I shall not take time to discuss these at any great length, only to make a few remarks on the first and last named.

While all these faults have more or less to do with the mortality among infants and children, it is undoubtedly the fact that scrofula is the most potent factor in the relation of cause, vitiating, as it does, the human system in such a manner that it is rendered incapable of withstanding disease to the extent that it otherwise would. In a word, scrofulous children are tender, delicate, frail; not in external appearance, perhaps, as already remarked, for they may be rosy-cheeked, even plump; "very healthy," as the parents will often say, but so in fact, as proved by the readiness with which they are swept away.

Now, all our observations, I believe, tend to confirm the opinion expressed by Rindfleisch (Ziemssen's Cyclopedia, vol. v.), which is based upon the researches of Virchow, regarding inflammatory exudations in scrofulous persons. I cannot do better than to quote from page 636 of the volume named: "Virchow first called attention to the predominant cellular character of the scrofulous exudation; to its hyperplastic nature, and to the low vitality of the cells which compose it. For my own part, I would add that fresh scrofulous exudations contain relatively *large* cells, with glistening protoplasm, and a nucleus in the act of segmenting, or containing a double nucleus. I have received the impression that the emigrated white blood globules, which in normal individuals pass from the blood vessels of the inflamed tract to some adjoining surface, or to the lymphatics or lymphatic glands, or become collected into abscesses, have a tendency, in scrofulous persons, to grow larger on their way through the connective tissue. They swell up by the intussusception of albuminous substances, and in this very swelling die and slowly degenerate. The consequences of this peculiar anomaly of vegetation are felt in all the inflammations of scrofulous persons; less in the superficial catarrhs of the skin and mucous membranes than in the deeper parenchymatous inflammations of the glands and viscera."

If this be true, that all inflammatory processes in the scrofulous are almost sure to pursue such a course, we may readily indicate to our own minds the cases in which lie the greatest danger; for whatever disease the scrofulous system encounters that has as a part and parcel any inflammatory process, of whatever surface or tissue, that disease will result, in a greater or less degree, in the complications and dangers just described. Hence, we have long ago learned to dread, in the scrofulous, the diseases to which children are especially liable which have an inflammatory or even a hyperæmic character. The same explanation, I have no doubt, can be given of the serious results which sometimes follow vaccinations in these subjects, even with the purest virus. No amount of care can always avert such unpleasant consequences. All are aware of the great difference in the results which follow ordinary injuries, as, for instance, of the joints, or other parts, the difference being determined by this deep-rooted all-pervading constitutional taint.

But another cause may undoubtedly be assigned for the low vitality in children of certain families; a cause which is now and then simply mentioned, but not really dwelt upon and distinctively urged, yet I believe a very prolific one in inducing the bodily condition under consideration. I refer to sexual exhaustion, commonly induced, as is well known, by the frequency or rapidity of conceptions; also by the ruinous practice of imperfect or incomplete coitus, and perhaps by repeated abortions. I cannot but think that sexual exhaustion as a cause of low vitality is not receiving its due share of attention; that the public is not properly enlightened, through the profession; that we are perhaps criminally negligent in failing to discharge so vitally important a duty, while it is carrying off, probably, as many as all the other causes we have named, except, possibly, scrofula, and even this, with all its evils, may frequently be engendered by it.

Sufficient, however, has been said on these points, as my principal object in this paper was to speak more especially upon the physician's part in the management of such families, by moral, hygienic, and medicinal treatment. That we may do much to fortify such constitutions against what may, and, indeed, must be, encountered, is admitted by all. Not that we can in all cases entirely eradicate the cachexia, but that we may so far neutralize its influence or power that the system will not so easily succumb to the influence of disease. In other words, that we may raise the grade of vitality, and perhaps, even, in some cases, place it on a level with the strongest.

The hygienic management of such families is all important, and pretty well understood, even by the laity, so that generally, as far as possible, it is carried out, and with great benefit too. But for this fact thousands would die in their early years who are now, in these days of better intelligence, saved. We are continually urging upon parents, and very properly, the importance of all hygienic points in the management of their families, particularly proper exercise, good air, and suitable food and clothing. The importance of proper food none will question, and it may be affirmed that the mother's milk, if healthy, and cow's milk, where it can be obtained pure, is all that is required. In regard to the various "foods" that are advertised so extensively, I have little experience, having, first, a strong prejudice against all such preparations for infants and children, because I believe nature to be the best chemist in providing her own nutriment, and secondly, because milk has invariably proved itself all sufficient.

Proper clothing is of equal importance, but it is readily understood that all these requisites

cannot be carried out by a large proportion of the families, on account of pecuniary inability. Good air, good food, and good clothing are not the gifts of poverty. Fortunately, however, milk is, in most places, abundant and cheap, and a portion of it each day, with even coarse food, will build up many a poor body.

Aside from such judicious management, I know of none that offers to us more promise of success than a persevering course of cod-liver oil. After much careful observation of its effects I can confidently affirm that cases such as we have been considering form a large class, in which the benefits of this *great remedy* are too little understood. Not that its value is underrated in the various and actual *diseases* that are commonly called scrofulous; not that it is neglected when disease has fairly invaded the system; for these all acknowledge its potency for good; but as a *modifier* of the whole organization, *before* disease has invaded it, even while it is yet unsuspected, and during the early months of life, then it is that this remedy is most valuable. As Prof. Geo. B. Wood says of mercury, so I say of this remedy, it "revolutionizes" the whole body, builds up every cell, reorganizes, so to speak, the vital forces, and makes the child apparently another being. Therefore, as a preventive, as a fortifier, I would recall the attention of the profession to it, believing, as I do, that it is too much neglected.

From happy observation, in very many instances, I have found it to so enhance the powers of endurance that disease would not take on so readily fatal forms, or meet with so many complications. With this understanding of the relation of cod-liver oil to such constitutions, the natural conclusion is that the sooner its beneficial effects can be realized, the earlier it can be given, the more hopeful we may be of success.

In order to illustrate properly my experience in the matter, I will cite an instance, one of a number that could be given. It is a family by the name of Butler; the father and mother apparently healthy; had a child, the first, that with some evidences of a delicate constitution, has grown to be a boy of nine years. The second child, at eleven months of age, died of marasmus. The third began to decline at four months, after being urged to administer cod-liver oil. This the mother neglected, or rather refused to do. A few months after it was attacked with dysenteric spmptoms and died. After the birth of the fourth child the parents were urged still more strongly to administer the remedy early. It was neglected again, and this one died at the age of eleven months. She then promised if another should be born she would administer the remedy. She did so for several months, commencing soon after its birth, and it has now passed three summers, and is healthy. She has now the sixth, thirteen months old, to which was also given the oil faithfully, and which is as promising as the last.

I think the remedy should be administered early; if possible, long before the first summer, and continued diligently, in such doses as the little stomach will bear. I have not generally discontinued its use upon the occurrence of an ordinary diarrhœa or dysentery, for, with Ringer, I find it often seems to benefit such cases, especially the latter. It is needless to say it should be continued several months, if possible.

To omit the discussion of the operation of cod-liver oil is excusable, as our present knowledge has not enabled us to come to any satisfactory conclusion in other diseases in which its beneficial effects are acknowledged. Certainly, it is a compound of many and valuable constituents. According to De Jongh (U. S. Dispensatory), these consist of iodine, bromine, chlorine, phosphoric and sulphuric acids, phosphorus, lime, magnesia, soda, iron, glycerine, various biliary principles, a peculiar substance, called gaduin, several other peculiar substances not named, etc. The thousands of gallons that are consumed every year is certainly good proof of the high esteem in which it is held by the profession as well as the public, even though its operation is somewhat mysterious.

I am aware that such a general recommendation of this remedy nearly approaches empyricism. And at this point I wish to call attention to the remarks of Niemeyer, that cod-liver oil is used in scrofulous diseases too indiscriminately; that it is needless to administer it to any but those who are *lean*, with little or no adipose tissue, etc. This is undoubtedly true in reference to tubercular affections, but I must dissent from it in the cases I have mentioned, especially in infants and young children who have *not* yet reached the tubercular or disease stage.

Many other points bearing upon this subject might be discussed, but I shall take time to offer a very few remarks upon only one, and that is, weaning from the mother. Much might here be said in quoting the opinion of others, but I must be content in stating some practical points which have impressed themselves after many years of observation.

It is evident that a healthy mother, with

healthy milk, should nurse her own child; on the other hand, if unhealthy, she should not. But can we always determine accurately this point? It is a fact that a healthy, or, certainly, an apparently healthy mother, may secrete unhealthy milk. Such cases have come under my own observation, and doubtless many others have noticed the same thing.

Dr. Jacobi, of New York City, has recently (*American Journal of Obstetrics*, volume XII, page 541) given some indispensable instructions, which all must appreciate, and which very clearly intimate an endorsement of the points in infant therapeutics, etc., upon which I am speaking.

Bedford, in his "Diseases of Women and Children," gives excellent advice on lactation and weaning, which it would do well for all to consider. He refers to a child suffering with a persistent diarrhœa which apparently had baffled ordinary treatment. He examined the mother's milk and found it to contain colostrum, which should be found in the breasts for only the first few days after delivery, as is well known. He weaned the child and the cure followed spontaneously.

Similar facts I have known in regard to cow's milk. One family had two cows; from one the child was fed and did well. The other cow's milk acted speedily and always as a cathartic, and the mother told me that whenever she desired to administer a cathartic to her child she gave it the milk from this second cow. Both cows were equally healthy. Another family had a cow the milk from which always produced an eruption on the child's skin. After several trials and experiments, the milk was necessarily abandoned. Why may not human milk sometimes present the same anomalies?

The truth is, we may estimate approximately, never with precision; therefore, when a child fails to do well with good medical advice, it is certainly good practice to wean it from the mother, unless the time approaches too near the hot months, and either find a wet nurse, or, better still, generally, raise it on cow's milk. Indeed, I generally feel a sense of relief when any circumstance induces parents to rear their scrofulous or tainted children on cow's milk. This I am willing to repeat with emphasis, having long ago formed the belief that mothers in these modern days are too commonly unfit to nurse their children.

It must be acknowledged that one very serious obstacle exists to the general adoption of this advice. It is the changed, unnatural condition of cow's milk as found in the larger cities; a change that appears to be decided and unmistakable. While this fact is sufficiently known and acknowledged, it is undoubtedly true that physicians in such cities scarcely appreciate it in its full length and breadth.

Milk in the city and country is, indeed, two different fluids; different in nearly all points. The fat is more irritating, because more indigestible; the casein forms in the stomach in larger and denser masses; even the salts are not in such perfect solution, besides being chemically changed by the external forces to which city milk is necessarily subjected. It is often rendered unfit for any stomach, especially that of the tender infant.

In the country the milk is at once and carefully carried to a cool, dark cellar, strained, placed in pans, and left undisturbed, and away from light and heat. It is scarcely changed, chemically or physically, from one milking to the next. It is simply sweet, pure, fresh, untouched, perfect. In the city it is in every respect exactly the reverse, particularly in warm weather; the long agitation in its transportation, the heat, the light, and too often the adulteration with chalk, magnesia, water, or whatever the peculiar "receipt" of different dealers directs, rendering it a pabulum entirely changed from the condition in which nature left it. Hence we might well say: In the city raise an infant on breast milk, in the country on either, all things being equal.

It is easy to perceive why such a discrepancy exists in instructions of writers on the management of infants; one having never known or tasted of pure country milk, the other entirely ignorant of the quality of milk as vended in the cities.

It is equally easy to understand, also, why a removal from the city to the country will often rapidly benefit the sick child, the food, especially the milk, more than the air, in my humble opinion, conducing to this happy result. In the latter place the question of infant dietetics becomes much more easy, and, therefore, the therapeutical one proportionately simplified. Even the milk obtained from a cow kept in the city is often injured while in the udder, by driving her a long distance from pasture. She is almost sure to be fed more or less on slop, which is so easily obtained from neighboring dwellings, besides being kept at night in small, smothering stables.

All this, however, does not invalidate the fact, as I deem it, that pure, fresh cow's milk is only second, if not fully equal, to the material fur-

nished by the mother; diluted with pure water for the first four months, afterward given in its full strength.

What, then, it is asked, is the best thing that can be done with infants in the large cities, who are obliged to remain? The answer may readily suggest itself, if we fully comprehend the causes which produce deterioration of milk. Imitate, as far as possible, the treatment it receives in the country, and particularly among small dairymen, where only it is to be found in its greatest perfection. Avoid agitation, admixture, heat and light, and certainly all this can be done to a considerable extent. First, the supply for the family should be taken fresh from the cow, at least twice a day, carried by hand, and as short a distance as possible; secondly, this should be done in an absolutely cool and cooling receptacle, and third, it should be kept carefully in a cool cellar, or in a common refrigerator, from which it is to be taken only in small quantities, as required, warmed and given to the child. I am satisfied, from personal observation, that such precautions will repay the little extra trouble involved.

The conclusions which may be drawn from clinical experience, and to which I invite attention, are—

1. That "taints" exist much more frequently in children of families than in the parents.

2. That such taints produce a low grade of vitality.

3. That among these taints or defects scrofula and sexual exhaustion are the most common.

4. That external appearances and the family history do not always point to these constitutional defects.

5. That the unnatural and ready yielding of the body to disease is often the first evidence we have of the existence of taint.

6. That disease in such a body is not what the same disease is in one that is free from such fault.

7. That cod-liver oil is often capable of neutralizing such faults, or in other words, of revolutionizing the vital forces.

8. That to accomplish this the remedy is to be given early in life, and *before evident disease commences.*

Editorial Department.

Periscope.

Vasomotor and Trophic Neuroses.

At the Medical Society of London, recently, Dr. Dowse commenced a paper on this subject by stating that under the head of nervous disorders was embraced not only our objective material and volitional parts, but also the co-relation of these with subjective as well as mental morbid processes. The nervous system embraced a chain of phenomena by which were linked together all parts of our conscious and unconscious being; and it was impossible, even at the present day, to say how far and by what means these were intimately associated. Eulenburg and Guttman, in their essay, stated that certain well known investigations had placed it beyond doubt that the vasomotor centre for most parts (including the head) was in the medulla oblongata; and not only had Budge's former experiments proved the influence of the pedunculus cerebri on the vessels of the opposite half of the body, but their own investigations showed that certain defined localizable vasomotor districts existed in the surface of the brain in dogs, in the upper part of the cortical substance; and the experiments of Goltz upon the sciatic nerve and lumbar part of the spinal marrow of dogs had proved that there were two kinds of fibres governing the movements of vessels, the one dilating and the other contracting them. It was by the due correlative action of these nerves that the tone of the vessels and nutrition of parts were maintained. Trophic nerves had, up to the present time, not been made evident by dissection; yet from analogy, it was quite rational to infer that they had an independent existence. It had been shown, by M. Claude Bernard and others, that the branches of the sympathetic nerves might be divided without producing any alteration in the nutrition of parts, although the resulting congestion might be intense and prolonged; and that it followed, as a rule, that the congestions arising from paralysis of the vasomotor nerves and derangements in the nutrition of parts were, as far as clinical teaching and experimental physiology showed, quite independent of each other. M. Brown-Séquard had shown that paralysis of a vasomotor nerve might be carried so far that not even a drop of blood flowed on pricking the skin; that the vitality decreased and the parts became pallid and cold, but no changes in nutrition occurred. It was not uncommon to find cases, notably among hysterical patients, where there was a very intense and persistent check to the circulation, yet troubles of nutrition did not arise under these circumstances, so that we were compelled to fall back upon what he admitted was in a measure theoretical: "That there was a set of nerves intimately associated with

compound cerebro-spinal nerves which had an especial function in regulating and controlling nutritive processes." There was no better established fact in the whole range of neuro-pathology than in those disorders of nutrition of distant parts of the body which resulted from destruction to brain tissue by vascular changes; and these took a direct course in conformity with the histological direction of the nerves implicated; and deaths arising from this cause were often more frequent than from the primary seat of disease in the brain and spinal cord. By way of examples, he referred to bed sores and to the rapid destruction of the mucous surface of the bladder and urinary tract. He pointed out that consecutive lesions of nutrition to central brain disease sometimes deceived the physician, who mistook them for the disease itself. Dr. Dowse continued his paper by drawing attention to the part played by the vasomotor and trophic nerves in hemicrania, angina pectoris, facial hemiatrophy, muscular atrophy, and pseudo-muscular hypertrophy.

The Hyposulphites in Smallpox.

Dr. Hardaway writes, in the St. Louis *Courier of Medicine*—

When Inspector of Smallpox in this city, during the epidemic, some years ago, I had many hundreds of cases of variola under my observation, with the opportunity of testing various plans of treatment in that disease. As the result of my experience, I came to the conclusion that the hyposulphite of sodium was an invaluable remedy for smallpox. If Polli's theory of the action of these drugs is at all tenable, then surely they are indicated in variola. Owing to the influence of previous vaccinations in modifying smallpox it is particularly difficult to arrive at any very exact conclusions as to the effect of medication; but having treated all types of the disease, and many unvaccinated children, with the hyposulphite, I am prepared to state that my results were highly encouraging. One thing that I frequently noticed in using the hyposulphite, was the prevention or modification of the pitting—a result that, with my present experience, I would be led to expect.

Iodine in Malarial Fever.

On this subject Dr. Wm. Anderson has an article in the *Proceedings* of the Kings County Medical Society, from which we make the following extract. He had used it largely in the Brooklyn Dispensary:—

The time required to effect a cure naturally varied. In a large number there was no paroxysm after the first dose; frequently it took two or three days before any mitigation was observed. While it was seldom necessary to repeat the usual two or three ounce mixture, it occasionally happened that the fever returned when the medicine was omitted for a few days, but was again promptly subdued on a renewal of the iodine. That there is such a thing as a permanent cure for this subtle and Protean disease, even with iodine, I very much doubt; and no educated physician would promise it under any form of treatment. As to the question of relapse, I believe there is less chance of a return than after treatment by quinia. I have had several patients return the following year for their iodine prescription, which they remembered as having given them prompt relief; but this experience is doubtless common to all forms of treatment.

Iodine is so seldom prescribed for internal use in any form of disease, and it is so customary to consider it as an external agent, that most physicians look with suspicion on the idea of substituting it for quinia. Very many think the stomach would not tolerate it. This idea, however, is merely the result of inexperience. The extent to which Lugol carried the exhibition of iodine ought to be sufficient proof of its safety, if not of its usefulness. In the dose recommended, and properly diluted, it is quite palatable, and can be borne by almost every one. I have had but one patient who could not retain it, but neither could she retain a solution of quinia, and was only relieved when I prescribed quinia in capsules. Children take it readily—that is, where they will take anything readily. I have given it to children of all ages, and have not had a fraction of the trouble I formerly experienced with quinia.

When I commenced this line of treatment I used the simple tincture of iodine in syrup and water; but while this acted well therapeutically, it was found advisable to add iodide of potassium to the mixture, to prevent precipitation of the iodine. For adults I usually prescribed twelve to fifteen minims of the compound tincture, freely diluted, to be taken three times a day, after food, and regardless of pyrexia. From five to ten minims usually sufficed for children. Larger doses were frequently employed in severe cases, without producing any unpleasant results. My usual prescription in private practice is as follows:—

℞. Tinc. iodinii comp., ℥ vj
Syr. acaciæ, ℥ xviij. M.

Sig.—Teaspoonful in a wineglassful of water three times a day, after food.

The compound solution of iodine would answer equally well, and would come cheaper for dispensaries, or those physicians who give out their own medicine. The iodine may be combined with any other drug indicated, and I now frequently use elixir of eucalyptus as a vehicle; but I was careful for a long time to use no combinations that might complicate the experiment.

Prevention of Mammary Abscess.

The following not new but useful plan is recommended by Dr. Shepherd, in the *Canada Medical and Surgical Journal*, August:—

When the gland becomes indurated, painful, and has a glistening red look (symptoms, in fact, of approaching suppuration), take a large piece of ordinary sticking plaster and cut it a circular shape (a larger or smaller disc, according to the size of the affected breast); make a hole in the centre large enough to allow the nipple and half the areola to be seen, and apply this piece of plaster (after heating it) so that it will cover the whole breast, and that the nipple will protrude through the aperture in the centre. To make the

plaster fit more accurately, its circumference should be deeply nicked at distances of about an inch. The plaster should be left on till the breast softens, or the plaster ceases to exercise even pressure. This simple method, in the half dozen cases I have seen it used, has acted magically, the breast softening and the pain disappearing in the course of twenty-four hours. In one case a woman who had suffered on several previous occasions from broken breasts came to the out-door department of the General Hospital with all the symptoms of fast approaching suppuration in her right breast; in fact, I considered that within twenty-four hours I should be obliged to use the knife. However, I said to the students that if there was anything in the plaster remedy this would be a good case in which to try it. I applied the plaster in the way described above. Two days after the woman returned and said, with a pleased smile, that it was the only remedy she had ever tried that had done her any good; that on previous occasions every remedy had failed to prevent her having a "broken breast." On examining the breast, I found it quite soft, painless, and with only one small lump of induration on the upper part, which disappeared in the course of a couple of days.

When to Induce Premature Labor in Puerperal Eclampsia.

On this question Dr. W. W. Potter writes, in the *American Journal of Obstetrics*—

The proper time to induce premature labor in puerperal eclampsia becomes at once an interesting and important question.

Will it be wise to resort to the measure early; or shall it be postponed until other means have been tried and found insufficient? While these are questions, speaking generally, which must be determined from the observation and study of each individual case, yet I opine there is more frequent occasion to regret too great delay in the employment of this method, than that it has been invoked too early.

Observation and experience, those final arbiters of all questions medical, have settled some general principles pertaining to this whole subject, from which I formulate the following:—

1. It is wiser to err on the side of safety to the mother, and induce labor too soon, than to temporize until it is too late. When the uterine body has attained sufficient size to interfere materially with the return blood current, the indication is most clear. This will especially be the case if there is deep coma in the interval of the fits, indicating great activity of the blood poison. Here the urgency is pressing, and prompt action may save life. In hesitation there may be disaster.

2. The amount of albumen in the urine is not a sure indication of the extent of the blood poison, since in many of the severer cases there are but slight traces of albumen, and in others it is wanting altogether; while, on the other hand, albuminuria is frequently found in pregnant woman who do not subsequently have convulsions.

3. From this it may be inferred that the practice of inducing labor when there is albuminuria *without* convulsions is a questionable one; its employment as a necessity, at least, being limited to a small minority of cases.

Memoranda for the Disinfection of Yellow Fever.

The following rules have been published by the National Board of Health:—

1. It is prudent to assume that the essential cause of yellow fever is what may, for conciseness, be called a "germ," that is, something which is capable of growth and propagation outside the living human body; that this germ flourishes especially in decaying organic matter or filth, and that disinfection must have reference both to the germ and to that in or on which it flourishes.

2. Disinfection, when used in a place not infected, for the purpose of rendering filth, or foul soils, waters, etc., incapable of propagating disease germs, is a poor substitute for cleanliness, and is mainly useful to make the process of cleansing odorless and harmless. The best disinfectants for this purpose are sulphate of iron, carbolic acid, fresh quick-lime, fresh charcoal powder, chloride of zinc, chloride of aluminium, and permanganate of potash.

3. The two great difficulties in destroying the vitality of the germ of yellow fever are, first, to bring the disinfecting agent into actual contact with the germ; and, second, to avoid injuring or destroying other things which should be preserved.

4. *When the germ of yellow fever is dry, or partially dried, no gaseous disinfectant can be relied on to destroy it.* It must either be moistened or subjected to a dry heat of not less than 250° F., to obtain security.

5. In disinfecting or destroying infected clothing, bedding, or movable articles, *move them as little as possible while dry.* Before disturbing them have them thoroughly moistened, either with a chemical disinfecting solution or with boiling water, in order to prevent the diffusion of dried germs in the air in the form of dust.

6. The best method of disinfecting rooms, buildings, ships, etc., is still doubtful, owing to the difficulty of destroying the vitality of dried germs.

The Board proposes to have this subject carefully investigated, and in the meantime advises thorough scrubbing and moist cleansing, to be followed by the fumes of burning sulphur, at the rate of 18 ounces per 1,000 cubic feet of space to be disinfected.

The sulphur should be broken in small pieces, burned over vessels containing water or sand, which vessels should be distributed in the closed space to be disinfected at the rate of one to each 100 square feet of area of floor,

7. No patented compound known to the Board is superior, as a disinfectant, to the agents above mentioned, and none is so cheap. Some of these patent disinfectants are good deodorants, but *the removal of an unpleasant odor is no proof that true disinfection has been accomplished.*

8. In districts where yellow fever prevailed last year the following precautionary measures should be taken:

(*a*) Textile fabrics of every description which were exposed to yellow fever infection during the year 1878 and which have remained packed or

boxed in a closed space since such exposure, should not be opened or unrolled, but should either be burned or placed in boiling water for half an hour or more, or in suitable heated ovens, or disinfected, according to the nature and value of the individual article or articles.

(*b*) Every house or room in which cases of yellow fever occurred in the year 1878, and since that time have remained unoccupied, should not be opened for occupation until they have been thoroughly cleansed and disinfected, by persons acclimated to yellow fever.

(*c*) Every privy, vault, under-ground water-cistern, dry well, or closed cellar, connected with a house in which yellow fever existed last year, and which may not have been opened since that date, should not be reopened, but if possible should be covered with several feet of earth.

(*d*) Every suspicious case of sickness should be at once isolated, and every possible precaution taken to prevent infection, by providing attendants who have had the disease, and thorough disinfection of all discharges from the sick. If the disease prove to be yellow fever, all articles of clothing and bedding used about the sick should be burned, the house should be vacated, and every room tightly closed and fumigated with burning sulphur.

Reviews and Book Notices.

NOTES ON CURRENT MEDICAL LITERATURE.

——"Volume I, No. 1," appears on half a dozen periodicals which reached us last week. A few words will be due each of these new births. "The American Journal of Electrology and Neurology," edited by John Butler, M.D., and published by Boricke & Tafel, New York, is to be a quarterly, supported by homœopathic writers on this specialty. The "Journal of the Eclectic and Liberal Medical Association of Eastern Indiana" is edited by N. G. Smith, M.D., of Lewisville, Ind. Its scope is obvious from the title. Enough of it. The "Home Medical Journal" comes from Boston, Mass. It announces that it is "devoted to the interests of health and hygiene in American households." These interests will not be furthered by the numerous quack advertisements it contains. "The New Era; Organ of the Law and Order Temperance Movement in Ohio," Columbus, Ohio; a rabid prohibition sheet. "The Cosmopolite," of Sioux City, Iowa, which looks as if it was started in the land selling interests.

——Several reprints in the department of ophthalmology have been received from Dr. M. Landesberg, of this city. They show him to be an acute observer and faithful student. In one of his latest papers, "on the therapeutic uses of Eserine in glaucoma," he gives what is likely to be a needed warning, which we quote in his own words:—

"If I draw the *final conclusion* from my observations, I must regard eserine to be not only an unreliable, and, in the most cases, worthless remedy in glaucoma, but also a very dangerous one, which, by its primary results, may lull the patient as well as the attending physician into a delusive security, endangering thus the favorable chances of another more efficacious therapeutic action. Especially insidious is eserine in the hand of the patient. The latter, convinced by the primary results of the high value of the remedy, will resort to it in all the following paroxysms, without consulting the physician, and will only desist from his experiments when a larger part of the sight has been irrevocably lost."

——The annual report of the State Lunatic Asylum, Utica, N. Y., contains the usual statistics, and also an interesting pathological report, giving the post-mortems of a number of cases. The superintendent makes the following important observation on the results of these autopsies:—

"In regard to the pathological affections of the ganglionic elements of the nervous centres, it seems that the so-called pigmentary degeneration resulting from the absorption and deposition of material in the protoplasm of the ganglion cells, furnished by the decomposition of emigrated red blood corpuscles, is of far more import than has hitherto been admitted. Especially in the brain of paretics it can be demonstrated that this pathological process may lead to a complete destruction of the ganglion cells, to a transformation into granular, dark-brown colored masses, with disintegrated prolongations resembling the former cell body only in the raw outlines."

——An able and timely monograph has been published by Delahaye & Co., Paris, entitled "La Trepanation Guidée par les Localisations Cérébrales. Par le Docteur J. Lucas-Championnière, Chirurgien des Hôpitaux, Rédacteur en Chef du *Journal de Médecine et Chirurgie pratiques*, membre de la Société de Chirurgie. 1 vol. in-8 de 180 pages; price 3.50 fcs." The author studies very successfully the records of trephining, to show the observed effect of the operation on nervous lesions coincident with the wound. He believes functional localization opens a new field for the operation. He goes so far as to formulate the rule, that given certain motor troubles consecutive to lesions of the skull, it is possible by their study to determine sufficiently precisely the cerebral lobe implicated to guide the hand of the surgeon in operative measures on the skull by trepanation. Certainly, if anything near this can be achieved, the advance is great. The work will be studied with interest by surgeons.

THE

Medical and Surgical Reporter,

A WEEKLY JOURNAL,

Issued every Saturday.

D. G. BRINTON, M.D., EDITOR.

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THE FACTOR OF TEMPERATURE IN CLIMATE.

The most prominently important feature in the geography of a health resort is its temperature. It is astonishing how little is understood by even professional writers on this subject, and how rarely are we furnished with information which fully covers all that the reader must know in order to form a correct opinion as to the sensations of heat and cold he is likely to experience in a given locality. These sensations are far from being indicated by an ordinary thermometrical record; and we shall proceed to point out exhaustively what elements are indispensable to a correct understanding of temperature as it affects sensation. We preface our remarks by saying that in the numerous articles and books we have examined on this topic we have not found a single one which fulfills the conditions necessary to accuracy.

First, it is obvious to all that a yearly, seasonal or monthly average of thermometrical readings is of scarcely any value at all in this connection. Even a table of daily averages is no better. For example, a daily average of about 70° is found in certain months at Callao, Peru, and also in the desert of Gobi; but there is not the least similarity in the sensations of heat and cold experienced in the two localities; for, whereas in Callao the thermometer rarely varies 10° in the twenty-four hours, in the desert of Gobi it is not uncommon to have at midday a temperatnre of 90 to 95° in the shade, and at night to see the mercury below the freezing point. Hence, the *range* of the thermometrical readings is much more important than the *average*. DOVE recommended that, for practical purposes, periods of *five days* should be selected as sufficiently short and convenient of mathematical handling, and in these periods the maximum, minimum and average be shown. To give the monthly range he very properly condemned as valueless for purposes of comparison of sensation.

The *solar power* is another very important element in a climate. We have frequently heard patients speak of it, but it rarely appears in meteorological records. Yet its effect on personal comfort is great. Along the Riviera the out-door air in winter is very pleasant in the sun, but in the shade is singularly chilly and penetrating. In the Lake Superior region, in summer, the rays of the sun are frequently unpleasantly hot, while the shade is disagreeably cold. Localities differ widely in this respect. At Muscat, in Arabia, the difference between the temperature in the shade and in the sun has been noted at times at over 90° Fahr.! Such differences as these greatly diminish the claims of a spot to being a pleasant one for sensitive subjects.

Even where the range is low, and the solar power moderate, very wide differences in sensation are experienced, owing to the amount of *moisture* in the atmosphere. The comparison of the wet and dry bulbs is indispensable to an understanding of a climate. All know that a dry cold or heat affects sensation far less than when the air is damp. We have seen a room in a Turkish bath heated to 235°—more than 20° hotter than boiling water—yet bathers remained in it for several minutes with impunity, as the air was

thoroughly dried. The least moisture would have scalded them to death. On the other hand, at Davos, in Switzerland, in the dry Alpine air, consumptives and other delicate patients will sit out of doors without overcoats, when the thermometer is below the freezing point, and neither suffer from cold nor experience ill results. Moisture promptly exalts the sensations. An experienced traveler told us the most oppressive heat he had ever experienced was in the moist season on the Caribbean Sea, when the thermometer was not above 80° or 82°, but the air was saturated with moisture. What in Calcutta is known as "sunstroke weather" is when the sky is clouded and the atmosphere foggy, although the sun is obscured. A damp cold is well known to be of the "chilling" kind.

Another factor that influences our sensations is the motion of the air, the *wind*. Bayard Taylor, who experienced a cold of 50° below zero in Lapland, says it is bearable so long as there is no wind, but with a strong gale it is almost certainly fatal. The unpleasant sensation of coldness is aggravated by winds up to a temperature of about 70°; while over that they act agreeably, by reducing the sensation of excessive heat. There are, however, some exceptions to the latter statement. The Sarmattan and other winds from the deserts of Sahara and Arabia are, for some not very clear reason, far more oppressive than a still air of the same temperature, and they retain this character, no matter whether they blow directly from the desert, as at Cairo or Muscat, or whether they have passed over hundreds of leagues of sea, as when they reach Genoa or the Madeira Islands. A similar land wind prevails at times at Buenos Ayres, which has a peculiarly exciting and irritating effect on the nervous system. When it blows the best natured man grows crusty, and the virtues of patience and affability are at a high premium.

The *atmospheric pressure* also influences the sensations of heat and cold. As a rule, the greater the pressure, the more sensitive are the nerves to impressions of temperature. Residents on high plateaux are never sunstruck and support cold well. The demands made by the respiratory and circulatory system on account of the rarefied air explain this to a degree; and the relation of pressure to moisture also comes in for a share.

Finally, the *earth temperature* must be considered. All know that at a distance, which varies with the character of the soil, below the surface of the earth, a point is reached where a thermometer will constantly register the mean temperature of the locality. Approximately, the greater the absorption of heat by the soil, the deeper will this point be; and, of course, the deeper the heat penetrates the soil, the slower will radiation be, and consequently the more gradual the change from the diurnal to the nocturnal extremes, and hence, the more safe and agreeable will be out-door life and residence on ground floors.

All the above data must be furnished before a reader can form a correct opinion of a health resort, with reference to this single feature of its effects on sensations of heat and cold. Yet, we repeat, we have not found one description in which these data are supplied. We had it in mind to take up a few of the late circulars and books on health resorts, and illustrate how absurdly deficient they are, but we think better of it, and will let the reader do so for himself. One remark, however, we may add, and that is, that so long as medical writers are contented to give such lame and inadequate attention to these climatic considerations the important remedial resource of a change of climate will continue in the same foggy, vague and unsatisfactory condition that it now is, instead of being the most potent for good in many diseases, which it could be made.

Notes and Comments.

Therapeutical Notes.

BARIUM CHLORIDE IN ANEURISM.

This substance, in doses of gr. $\frac{1}{4}$–$\frac{3}{8}$, three times a day, has been successfully tried in aneurism by Dr. F. Flint (*Practitioner*, July, 1879). He says of it:—

"In my opinion preference should be given to the chloride of barium in fusiform aneurisms, which have hitherto not been very amenable to

treatment; also in the aneurisms of advanced age; and it might also be tried in any case in which iodide of potassium is inadmissible, or does not promise to be useful."

EUCALYPTUS IN NEPHRITIS.

In albuminuria and post-scarlatinal nephritis, Dr. Wm. Anderson, of Brooklyn, has used, with good results, the elixir and fluid extract of eucalyptus (*Proceedings of Kings' Co. Medical Society*, Aug., 1879). He expresses himself very decidedly as to the benefit he has witnessed from it. He gives gtt. x of the fluid extract, in water, every four or six hours.

UNGUENTUM PETROLEI IN ECZEMA.

An English writer strongly recommends this petroleum product in eczema, for the following reasons: 1. It immediately allays the irritation, and the patient ceases to scratch. 2. It evaporates, and so, unlike most ointments, it does not form a sticky mass, which keeps the irritating discharges in contact with the inflamed skin, and which has to be washed off every time a fresh dressing is applied; and, unlike lotions, it does not render the surrounding tissues sodden. 3. It dissolves the crust of scabs. 4. It is antiseptic.

IODOFORM LOZENGES.

These, as recommended by Dr. Whistler, of London, are—

℞.	Refined gelatine,	1 part
	Mint or fennel water,	2½ parts
	Liquid cochineal,	q.s.
	Glycerine,	2½ parts.

Mix, and make into a base. To a sufficient mass of this—

Iodoform,	gr. ij.

For one lozenge.

The advantage of this over the ordinary lozenge is that it is flexible, and perfectly unirritating to the mouth; the gelatine affords more relief to dryness of the mucous membrane than other vehicles, and they can be made by any druggist, as no drying oven or special apparatus is necessary.

THE REMOVAL OF MOLES.

For these unsightly marks Mr. B. Godfrey recommends acid nitrate of mercury. His plan is to take a fine-pointed glass tube, and having dipped it in the caustic solution, to dot all round the hirsute mass, upon the healthy skin, where they both join; then to dot points through the mass, like the white squares upon a chess-board, leaving the blank ones to be treated in a similar manner in a fortnight hence. By such a method he prevents too great an inflammatory action setting in, and makes a less scar in the future.

The Bite of the Skunk.

In the *Forest and Stream*, of recent date, is a contribution to the question whether the bite of the skunk is poisonous and will produce rabies. In the West and Southwest of the Mississippi Valley this seems generally believed. A writer from Colorado quotes several instances.

Dr. Cushing, of Trinidad, Colorado, who has, no doubt, seen several cases, gives it as his opinion that the natural bite of the skunk produces hydrophobia—that it does not need to be suffering from rabies itself. He says its bite will kill the victim sooner or later, without fail. Dr. W. L. South, who has had great experience in Texas and New Mexico, says "the bite will fetch the victim some time," meaning that it will sooner or later result in death.

We do not believe this is the case in the eastern States. The skunk is very common in Pennsylvania. We have seen dogs bitten by it, and have known those who hunted it constantly for its valuable skin; but have never heard of any such ill result from its bite, either in man or dog.

A Peculiar Micrococcus in Gonorrhœal Discharge.

In the *Centralblatt für Med. Wis.*, July 12th, Dr. Albert Neisser, of Breslau, announces the discovery of a peculiar form of micrococcus in gonorrhœal pus. It is circular, or oval in outline, not colored by indulin or methylgreen, usually in colonies of ten, twenty or more, surrounded by a membrane, generally found on the upper surface of the pus cells, rarely on the epithelial cells.

Dr. Neisser found these bodies in the gonorrhœal discharges of both sexes, in acute and chronic cases, and in various cases involving the eyes. He believes they are characteristic of the disease, though he does not express himself positively on their pathological significance.

The Ammoniacal Sulphate of Copper in Tic Douloureux.

The *Bull. de Therapeutique* for April states that Dr. Féréol, of the Lariboisière, has met with an amount of success in the use of this almost forgotten remedy in four cases of old and obstinate tic douloureux, that leads him to believe that it is one to which attention should again be drawn. He prefers the fluid form, as in the following mixture:—

℞.	Distilled water,	100	
	Syrup of orange or mint,	30	
	Ammoniacal sulphate,		10 to 15 M.

This to be taken chiefly at meal times, within the twenty-four hours.

If the neuralgia persist, the dose may be gradually increased; and in one case as much as sixty grams per diem was given, but then began to cause gastro-intestinal disturbance. Even in the ordinary dose, after two or three days, fetid breath and a metallic taste may be perceived; but in spite of this, the medicine must be continued at ten centigrams per diem for twelve or fifteen days, especially at meal times.

Improvements Suggested in Lunatic Asylum Organization.

At the close of a searching review of the attempted asylum reform in New York, a writer in the *Journal of Nervous and Mental Disease* presents the following resumé of the changes in asylum organization and management, suggested by the movement for reform now in progress in New York:—

1. To abandon the theory of asylums which considers them chiefly as lunacy cures, established for the benefit of local interests, and to be maintained by lobbying and advertising.

2. To abolish the local boards of trustees, and adopt a system of State management for State institutions, with a single responsible head, in place of the present formal management.

3. To devolve the medical and general supervision of asylums upon the State Board of Charities, which should be composed in large part of physicians.

4. To enact a law similar to that providing for the removal of trustees of savings banks for abuses of trust, so that commissioners or trustees, charged with the supervision of asylums, and neglecting or abusing their trusts, might be summarily removed.

5. The enforcement of a law never carried into effect authorizing the admission of private patients into asylums only when there are vacant places not required for public patients; and the charging of a uniform price of maintenance to both these classes, instead of leaving, as now, the price to be paid by private patients at the discretion of the superintendent.

Plugging the Cervix Uteri for Metrorrhagia.

At a late meeting of the Obstetrical Society of Paris a discussion on the treatment of metrorrhagia was introduced, and among the various manipulative measures that were referred to, preference was given to plugging the cavity of the neck of the womb, which had several advantages over plugging the vagina in such cases. It stopped the blood more effectually, the patients bore it better, and there was less chance of putrid absorption. Each speaker recommended his own plan; but that adopted by M. Panas seems to me the best. It consists of introducing into the cavity of the uterine neck a pledget of cotton wool, rolled up to about the thickness of a goose-quill, and steeped in a solution of the perchloride of iron of the *Codex*, to which is added one part of water, to prevent its caustic effects. This being done, he introduces a ball of cotton wool and places it in the posterior *cul-de-sac* of the vagina, where it not only forms a support to the uterine plug, but it absorbs any liquid that may escape through it, and thus protects part of the vagina (which is covered with the peritoneum) from the corroding effects of the perchloride of iron and the acrid discharges from the womb.

CORRESPONDENCE.

Partial Inversion of the Puerperal Uterus.

ED. MED. AND SURG. REPORTER:—

I was called to see Mrs. S., aged 17, American, on April 11th, 1879, at 8 A.M. Found her in labor, which had passed to the second stage. The os was well dilated, and the head was presenting in the second obstetric position (R. O.A.). She gave a good history and was in good health. She had been in labor about twenty-four hours, but the pains at that time were regular and moderately effective. The child was born at 10.45 A.M., after which I kept my hand on the abdomen over the uterus, to see that it was contracted, and also to stimulate it, if need be, by gently kneading it. In about fifteen minutes the placenta was expelled. As the uterus contracted, the uterine tumor seemed to leave my hand, and, indeed, seemed to be going out through the vagina. At this time blood flowed very freely. I evidently had a case of post-partum hemorrhage, and there was no time to lose. Not having electricity nor ice at my command, I immediately introduced my hand as a tampon, and applied cold water to the abdomen, which, happily for me and my patient, immediately stopped the hemorrhage. On introducing my hand, I found the cervix fully dilated, and the fundus down in the cervix and on the floor of the vagina. I pushed it back to its place and found complete inertia of the cervix; there seemed to be no action in it. I ordered some ergot, which did not arrive for about an hour. I then gave about five and a half milliliters of fl. ext. ergot, and continued on, giving it in two milliliter doses every half hour for two hours; at this time, being about three hours from the time the placenta was expelled, the cervix contracted so as to expel my hand. I then felt that my patient was in a more favorable condition. She had not lost a very great amount of blood, but it came very free until I introduced my hand, after which there was very little hemorrhage. I ordered milk and perfect rest. I saw her again in the evening;

she was doing well; pulse and temperature about normal. On the following morning, April 12th, the pulse was up to 112 per minute, and temperature 99°, feeling very well. She continued on about the same for 12 days, with pulse up, and temperature at no time above 99½°. On the fourth day the lochia started, was normal in appearance and amount, but stopped on the eighth day, and did not appear again. She made a good recovery.

The cause of the trouble, I think, can be traced to the first stage of the labor. When we think of the head pressing against the cervix the length of time it did, we cannot but expect to find the parts destitute of action and almost of life. The os had evidently been rigid and dilated very slowly, if at all, for a time. The long-continued pressure must have overcome the contractile power of the cervix, and left it in a relaxed condition. Then, when the time came for it to contract, it was not able to take part in the contraction with the rest of the uterus. The only muscular fibres that run directly across the fundus are the fibres of the external layer, and by their contracting, with no direct antagonist, as the circular fibres of the cervix did not seem to be acting, it would tend, we think, to draw the uterus more flat across the top, and in that way start inversion, which, I think, was the case here. The hemorrhage, I think, then came from the inverted portion of the uterus, as well as from the paralyzed cervix, and was controlled by the pressure of my hand against the bleeding surface. In regard to the pulse, I think the elevation was due to anxiety on the part of the patient, owing to the fact that she was not, or claimed not to be, looking for the birth until August. As was stated, the temperature was not above 99½°, and most of the time normal. She had a very good appetite, and gained strength very fast. Why the lochia appeared so late and disappeared so soon I am not able to say, as there seemed to be no trouble of any kind, except that involution went on slowly, but naturally and completely.

Stonerville, Pa. J. E. Rigg, M.D.

Frequency of Rigid Os Uteri.

Ed. Med. and Surg. Reporter:—

In your issue of Aug. 2d Dr. Simpson, of Thompson, Pa., gives us his experience in treating a rigid os. I have no fault to find with his treatment, but I think his arithmetic is out of tune.

He informs us that that obstinate organ has been "rigid" in 167 of the 218 cases he has recorded, and that he has treated them all with tartar emetic.

Is it not probable that a *rigid examination* of these cases would have shown nearly every one of them to have been no such thing, thereby saving his patients much unnecessary nausea?

In nearly double his number of cases I have not met with a dozen complicated with this trouble.

If this is the kind of medical literature we pay for, I am constrained to exclaim, in the language of the small boy, "Give us a rest!"

New Hampton, Iowa. A. Babcock, M.D.

[It is well to be temperate in criticism. If in over 400 cases of labor Dr. Babcock has not met a dozen cases of rigid os, it is either because his experience is wholly unique, or because he did not know it when he met it. Dr. Playfair speaks of this complication as "one of the most frequent causes of delay in the first stage" (Midwifery, p. 339). Dr. F. Barnes mentions it as "the most common cause of obstructed labor" (Manual of Midwifery, p. 151). Dr. Albert H. Smith says of one form of it, "I am constantly meeting with such cases" (Medical and Surgical Reporter, vol. xxxvii, p. 121). We recommend Dr. Babcock to read medical literature more closely, and we believe he will become better satisfied with the kind we give him.—Ed. Reporter.]

Case of Strychnine Poisoning.

Ed. Med. and Surg. Reporter:—

In reading the report of Dr. Chaplain's case of strychnia poisoning, in the Medical and Surgical Reporter for Aug. 2d, 1879, one must suppose the Doctor either failed to report the means employed for the relief of his patient or put forth no efforts to save his life, except the ineffectual effort to administer medicines by the mouth. In either case I think he has made an omission not readily excusable. In the first place, proceedings and treatment in reported cases should always be mentioned, not only for the enlightenment of those who peruse them, but for the clinical advantages which may be derived from them. If the Doctor employed no means to save the life of his patient (which I infer from his report), I would say he failed to do his duty, from the fact that there are a number of well authenticated cases on record where the same, or even larger, doses of the fatal drug were swallowed, with spasms developed (identical with the Doctor's case), where recovery has followed the various means employed. For instance, Dr. Dresbough's case, at Tiffin, Ohio, where the patient was alarmingly ill from grs, iij of strychnia swallowed, and where there was complete relief obtained in less than fifteen minutes, by ʒ ij of chloroform, taken internally. (See *American Journal of Medical Sciences*, xix-546.) Cannabis Indica has proven effectual in a case reported by Dr. S. A. M. Williams, Chicago. The man had taken five grains of strychnia; was violently ill; under drachm doses tr. cannabis indica, repeated every five minutes, then gradually giving the dose at longer intervals, etc., complete recovery occurred in forty-eight hours. (Medical and Surgical Reporter, Feb. 2d, 1867.) So a number of other cases could be cited, in which recoveries from strychnia poisoning have occurred under the timely use of antidotes.

Reasoning from the above and other recorded cases, and from the physiological effects of strychnia, I think, in a case like the one reported, inhalation of chloroform, ether, or nitrite of amyl should have been resorted to at once, with

the hope of overcoming convulsions, thereby enabling antidotal medication by the mouth.

Hypodermic medication would have been available, at all events, in spite of, and perhaps with the effect of, breaking up the convulsions in which the patient died, in which case further treatment would have suggested itself, with probable recovery of the patient, and another recorded victory for science. Had the case ended fatally (as it did), the Doctor could have felt that he had done his duty, and the profession at large could have felt that science had been defeated in a noble, but unfair, fight.

The fear that the perusal of the Doctor's report might leave an impression on the minds of some readers of the REPORTER that nothing should be attempted in such cases, prompted this communication. GEO. P. YOST, M.D.

Loganville, Pa.

[We have inquired of Dr. CHAPLAIN in reference to his treatment, and he replies as follows:—]

The case of S. D. Fletcher was reported more especially to give the quantity of strychnia swallowed, and the time elapsing before death. As regards treatment, it was absolutely nothing. An emetic was first ordered, which, in all probability, would have proved useless, since the strychnia had been taken twenty minutes before, on an empty stomach, and doubtless had already passed out of that organ. An attempt was also made to administer whisky. But when a powerful man, as this one was, determines that nothing shall be done to save his life, and resists to the utmost your efforts to relieve him, of what avail are the services of the physician? Neither hypodermic nor anal syringes were at hand, and could not be procured before the death of the patient.

L. CHAPLAIN, M.D.

Treatment of a Case of Anasarca by Punctures in the Lower Extremities.

ED. MED. AND SURG. REPORTER:—

Mr. A. L. F. was an unmarried man, of about thirty-three years of age, rather irregular in his habits and morals, but generally healthy and robust. At the time I was called to see him (April 12th, 1879) he had been treated by an irregular physician, for dropsy, by the administration of powerful hydragogue cathartics, with the object, no doubt (on general principles), of producing watery evacuations. In spite, however, of this heroic treatment, anasarca gradually succeeded upon dropsy, until the extremities were extensively distended, and the amount of fluid contained within the cavity of the abdomen was sufficient to produce mechanical obstruction to the breathing. Following the advice of one of my former professors while a student at McGill University, I resolved to make a sufficient number of openings through the skin in the lower extremities to favor the escape of a portion of the fluid. This was done on the 15th of April, five punctures being made with a Symes' knife, in each limb, below the knees. I had come to the conclusion, from the history of the case and the objective symptoms, that this abnormal condition of the body and limbs was caused by obstruction to the renal circulation, through congestion of the tubules, brought on by exposure to cold; consequently, under this conviction, I placed the patient under a constitutional treatment by diuretics and tonics. As a diuretic, was given—

℞.	Fluid extract digitalis,	ʒ ij	
	" " scillæ,	ʒ ij	
	Spirit. ether. nitrosi,	ʒ ij	
	Aquæ puræ, ad,	ʒ iv.	M.

SIG.—A small teaspoonful every four hours.

As a tonic, was given—

℞.	Ferri et quiniæ citratis,	ʒ ij	
	Acid muriatic. diluti,	ʒ iij	
	Glycerinæ,	ʒ ij	
	Aquæ aurantii, ad,	ʒ iv.	M.

SIG.—A teaspoonful every four hours.

I visited the patient every second day subsequent to the operation, and was extremely gratified with the result, which seemed in every way favorable. At the end of the eighth day the amount of serum that had been discharged was estimated at over two gallons; nor was I disappointed in the excessive prostration which supervened. It was fortunate for the patient that so gradual a process of evacuating the serum was devised, as, had it been more sudden, I do not believe that the patient would have rallied. Under the combined administration of tonics and diuretics, in a few days the patient expressed himself as feeling much more comfortable than he had been in weeks previously. The anasarca had nearly all disappeared, and the breathing was not obstructed. The incisions made by the knife were readily healed by bandaging and the application of an ointment made of subacetate of lead, camphor and opium. I have alluded to this case in so far as it relates to the operation of puncturing the lower extremities in the treatment of anasarca. The relief afforded in this case warranted the operation, and under similar circumstances I would not hesitate in resorting to the operation again.

A. O. STIMPSON, M.D., C.M.

Thompson, Pa., August 17th, 1879.

NEWS AND MISCELLANY.

Epidemic Disease.

The yellow fever continues in Memphis, from 20 to 25 new cases occurring daily. It is believed, however, not to be epidemic in any other of the Southern cities. Houston declared quarantine against Galveston last week, but the authorities of the latter city insist there is not a single case of fever there.

The following despatch from Warner P. Sutton, United States Consul at Matamoras, to the Secretary of State, is dated at Brownsville, Texas, August 10:—

Reliable information from Tampico, August 1st, says: "We have a yellow fever epidemic worse than New Orleans last year. People die like flies. Quarantine at Bagdad against Tampico still efficient."

The official statement of the mortality of

Havana during the month of July shows 475 to have died from yellow fever, and a total number of 1151 deaths against 1386 deaths in July last year, a decrease of 235.

Dr. J. W. Compton, of Evansville, Ind., gives some statistics of an epidemic of scarlet fever which had prevailed there since January last, remarkable for its continuance rather than its severity. The public schools continued fully attended, against the protest of Dr. Compton, who ascribes to that cause the maintenance and propagation of the disease. In a population of 40,000 there were 570 cases and 121 deaths. Ratio of cases to population, 14.25 per 1,000; of deaths to population, 3.02 per 1,000; of deaths to number of cases, 21.23 per cent.

Smallpox of a malignant type has broken out at Lanse St. Jean, on the Saguenay, Canada, and is raging very badly in the district, where there is no medical attendance.

Curious Relation of Religious Belief to Epidemics.

The Montreal *Witness* states that diphtheria is more prevalent among the Protestant section of Montreal community than among the Catholic. It is not a mere coincidence, nor is it of a temporary character. A study of the health statistics of Montreal for several years past reveals the same state of things. It is the more peculiar, inasmuch as the general death rate is much higher with the Catholics, particularly so in contagious diseases, and conspicuously so in the case of smallpox. But these admit of explanation. The only solution of the problem seems to be that the bulk of the Protestant community reside in the upper part of the town, where the drainage is less perfect than in the lower town.

British Medical Association.

The Association met at Cork on the 5th inst. We have received a full report of the proceedings, by the kindness of Dr. Laurence Turnbull, of this city, one of the invited guests of the Association. It will appear in our next number.

Items.

—It is suggested in a Western newspaper that there shall accompany the publication of the next census returns a list of persons in the United States who have lived their hundred years—the centenarians to be hunted up by the postmasters and the names to be preserved at Washington.

—The health authorities of New York city have been inspecting the tenement houses. They find that in many of them whole families sleep in a single room, where there is not a window, and no other ventilation than such as the door affords; the cellars and adjacent areas usually answer as a receptacle for dead cats; nobody ever seems to pay any attention to burst waste pipes, and sewer gas fills most of the rooms day and night.

—The meeting of the Canada Medical Association has been postponed to the second Wednesday in September.

Personal.

—The President has appointed Philip I. Wales, M.D., of Maryland, Medical Inspector U.S.N., and Chief of the Bureau of Medicine and Surgery, Vice J. Winthrop Taylor retired. Dr. Wales has at times contributed valuable articles to the MEDICAL AND SURGICAL REPORTER.

—Dr. William O. Mosely, Jr., a young physician of Boston, met his death on the Matterhorn, in Switzerland, Aug. 15th. He had made the ascent, and was descending, when he slipped and fell over a precipice, killing him instantly.

—The Cleveland physicians referred to on p. 66, Drs. Schneider and Smith, are homœopathic brethren.

QUERIES AND REPLIES.

Codex puts the following:—"A. is a regular practitioner; B. is a homœopath. B. is very deaf, and A., on invitation, sometimes accompanies him to examine cases of heart or lung disease; does not consult, prescribe, or charge or receive a fee; simply lends B. his ears. Does he violate the code?"

ANS.—The patients and their friends seeing the two physicians together, will regard them as associated, and therefore will believe the regular physician countenances and supports the practitioner of the exclusive dogma; hence, it seems to us, the general effect will be as detrimental and as contrary to the Code as a deliberate and full consultation.

Dr. *K. R., of Ky.*—Creosote has been occasionally employed in typhoid fever. Dr. Pecholier, of Paris, reported some cases about ten years ago, believing them very favorable. We have no personal experience with it.

Franciscus.—It is probable that the insanity of Charles VI, of France, was due to a sun-stroke. The child of the "woman of Shunem," in the Old Testament, is another historical example of the same accident.

Dr. *William.*—Second-hand medical books sell very low; you could not get much for them in this city.

Dr. *Al. K. M.* asks—"Is it proper for a physician to prescribe by letter for patients he has never seen? I do not mean through another physician, but directly."

ANS.—Yes it is. The most respected men in the profession do it. Nevertheless, it is capable of great abuse.

DEATHS.

BROWN.—At Hartford, Conn., on Saturday, Aug. 9th, Dr. Chauncey Brown, of Farmington, Conn., aged 75 years.

BUCKINGHAM.—In this city, on the 25th ult., George B. Buckingham, youngest son of Dr. T. L. Buckingham, in the 20th year of his age.

CHAPIN.—In New York, on Saturday, Aug. 2d, 1879, Reuben S. Chapin, M.D., aged 61 years.

CHURCH.—In New York, on Thursday, Aug. 7th, Dr. Austin Church, in the 81st year of his age.

PETERSON.—In this city, on the 23d ult., Blanche, wife of Dr. Robert E. Peterson.

ROWLAND.—In New York, suddenly, on Thursday, Aug. 7th, Charles Rowland, M.D., in the 80th year of his age.

SMYTH.—In this city, on the 24th ult., Francis G. Smyth, M.D., aged 35 years.

YOCUM.—In this city, on the 21st ult., of typhoid fever, Benjamin B. Yocum, M.D., in his 34th year.